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International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>C12Q 1/68, C07H 21/04</b>	<b>A1</b>	(11) International Publication Number: <b>WO 97/13877</b> (43) International Publication Date: <b>17 April 1997 (17.04.97)</b>
<p>(21) International Application Number: <b>PCT/US96/16342</b></p> <p>(22) International Filing Date: <b>11 October 1996 (11.10.96)</b></p> <p>(30) Priority Data: PCT/US95/12791 12 October 1995 (12.10.95) WO (34) Countries for which the regional or international application was filed: US et al. PCT/US96/09513 6 June 1996 (06.06.96) WO (34) Countries for which the regional or international application was filed: US et al.</p> <p>(60) Parent Application or Grant (63) Related by Continuation US Not furnished (CIP) Filed on Not furnished</p> <p>(71) Applicant (for all designated States except US): <b>LYNX THERAPEUTICS, INC. [US/US]; 3832 Bay Center Place, Hayward, CA 94545 (US).</b></p> <p>(72) Inventor; and (75) Inventor/Applicant (for US only): <b>MARTIN, David, W. [US/US]; Lynx Therapeutics, Inc., 3832 Bay Center Place, Hayward, CA 94545 (US).</b></p>		<p>(74) Agent: <b>POWERS, Vincent, M.; Dehlinger &amp; Associates, Post Office Box 60850, Palo Alto, CA 94306-0850 (US).</b></p> <p>(81) Designated States: <b>AU, CA, CZ, EE, FI, HU, JP, KR, LT, LV, NO, NZ, PL, RU, SG, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</b></p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>

(54) Title: **MEASUREMENT OF GENE EXPRESSION PROFILES IN TOXICITY DETERMINATION**

(57) Abstract

A method is provided for assessing the toxicity of a compound in a test organism by measuring gene expression profiles of selected tissues. Gene expression profiles are measured by massively parallel signature sequencing of cDNA libraries constructed from mRNA extracted from the selected tissues. Gene expression profiles provide extensive information on the effects of administering a compound to a test organism in both acute toxicity tests and in prolonged and chronic toxicity tests.